TAWASOL Symbols: The Power of Using Augmentative and Alternative Communication

Nadine N. Zeinoun
MADA Center
Overview

• What is AAC
• Types of AAC
• Goals of using AAC
• TAWASOL Symbols Project
• TAWASOL Application
• Hands On
Augmentative and Alternative Communication (AAC)

- Augmentative and Alternative Communication (AAC) is a set of strategies to address the needs of individuals with disabilities who struggle with speaking and speech-language production.

- AAC strategies include many forms of communication that can be used to express needs, ideas and thoughts. These strategies can be a supplement to existing speech or they may replace not-existing speech for non-verbals.
Use of an Augmentative and Alternative Communication System can allow the child to

• communicate their needs
• make choices for themselves
• take part in conversations with others
• take part in classroom discussions

These can range from:

• devices using pictures, images or words depending on the child’s learning preferences and skills
• devices with one message up to those incorporating an extensive vocabulary
Types of AAC

Low-tech systems:
AAC strategies that involve the use of equipment that is not electronic. These tools are often paper-based and contain books and charts. Low tech AAC includes Communication Boards, Picture Exchange Communication System (PECS)…
Mid and High tech AAC systems

• These can be simple message boards, speech generating devices (SGD) or complex computer-based communication systems.

• High tech AAC can also be found on tablets and mobile devices that we carry around every day.

• Electronic equipment allow the users to make use of pictures and letters to create messages. The devices can be programmed to speak.
**AAC and Language Development**

- Research tells us AAC does not interfere with, but facilitates speech development.
- The introduction of AAC devices has not been associated with a loss of speech skills.
- AAC assists in improving the success of a child’s communication through increased interaction and initiation.
- When an adult uses speech along with their child's AAC system, it can be most successful in developing speech comprehension & production.
- Language skills also develop through the use of AAC.
- The use of signing and visual supports can enhance comprehension skills.
- Children who use speech and AAC will always choose to use speech first if they are able to, as it is the quickest and easiest way to get their message across.
- Using AAC does not mean you are giving up on speech development. You will continue to work on speech development alongside AAC to ensure your child has an effective way to communicate with every one around them.
Introduction to TAWASOL Symbols Project
Background:

- There are a growing number of individuals who can benefit from using symbols to aid communication and literacy skills.
- Learning disabilities are the most common primary disability in the Arab region.
- 34% of those with another disability also have a learning disability. (Zetterström - 2012)
- Their needs are being met by the use of externally developed AAC symbols systems.
Aims of the Project

• To develop a **freely** available Arabic symbol dictionary suitable for use by individuals who have a wide range of communication difficulties.

• To develop a set of symbols that are **culturally, linguistically and environmentally** appropriate for AAC users in Qatar and the Arab world.
# Education That Makes A Difference

## Cultural and Environmental Issues

<table>
<thead>
<tr>
<th>party</th>
<th>swim</th>
<th>dance</th>
<th>dance</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="party_icon" /></td>
<td><img src="image2.png" alt="swim_icon" /></td>
<td><img src="image3.png" alt="dance_icon" /></td>
<td><img src="image3.png" alt="dance_icon" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>dive</th>
<th>back</th>
<th>holidays</th>
<th>beach</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="dive_icon" /></td>
<td><img src="image5.png" alt="back_icon" /></td>
<td><img src="image6.png" alt="holidays_icon" /></td>
<td><img src="image7.png" alt="beach_icon" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>park</th>
<th>kiss</th>
<th>DVD</th>
<th>woman body front</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image8.png" alt="park_icon" /></td>
<td><img src="image9.png" alt="kiss_icon" /></td>
<td><img src="image10.png" alt="DVD_icon" /></td>
<td><img src="image11.png" alt="woman_icon" /></td>
</tr>
</tbody>
</table>
Linguistic Issues

مرحاض جدول أعمال

English

غسل يديه

Arabic

يغسل يديه
The need for an English & Arabic Symbol Dictionary

- Therapists speak English = Therapy in English
- Carers and those supporting AAC users may speak English but as a second language
Collecting an Arabic Core Vocabulary

- Collecting local essential colloquial and Modern Standard Arabic vocabularies for daily use with symbols
- Include diacritics in Arabic so that symbol labels, words and their definitions can be read aloud accurately using speech synthesis – text to speech
- Provide parts of speech and categorization of words and symbols so they are easy to find when using the online dictionary.
Symbol Design Process

1. AAC forum to choose preferred freely available symbol set
2. Graphic designer to adapt symbols to be culturally, linguistically, religiously and environmentally appropriate
3. AAC forum to vote on acceptability of symbols
4. Analyze comments and develop criteria for adapting symbols to suit Arabic AAC users
5. Check criteria with AAC forum
6. Graphic designer to use criteria when developing future symbols
Designing Symbols
Landmarks in Qatar
Open access: free content including metadata

Supports easy searching and filtering
Open licensed: liberal, free to share, re-use, adapt and combine with other content
Open format: easy to use and adapt

- .svg
- .png
- jpeg
- .pdf
**Impact** - Maryam is telling her teacher what she did over the weekend.

"I played on the playground with the team. I ate with my siblings and cousins at the market, standing and making fried chicken and biryani. Then, I went shopping with my friends and bought clothes."
مرحبا بك في القاموس العربي / الإنجليزي لرموز التواصل

تحميل الآن

رموز تواصل هي عبارة عن قاموس عربي/إنجليزي يتكون من الكلمات الأكثر استخداما في التحدث والكتابة ممثلة برموز وصور توضيحية. وهي جزء من مجموعة أدوات تهدف إلى تحسين مهارات التواصل الذي يعرفون من صعوبات في التواصل أو في القراءة والكتابة.
The Tawasol AAC App is an Augmented Alternative Communication mobile solution utilizing the Tawasol symbols. The Tawasol AAC App has been empowered by Mada and developed by Royability Inc.
• The solution serves the people who are non-verbal or minimally verbal, particularly children with autism and require an alternative communication solution. With natural speech and ability to construct sentences in Arabic using a large set of symbols, the Tawasol AAC App makes a great assistive technology tool that is in high demand for the Arabic speaking community.

• Tawasol AAC features a symbol and text-based communication tool with a rich and expandable library of symbols, including the Tawasol Symbols set. The solution offers over 40 ready-made communication boards for the different aspects of the daily life communication in addition to the tool to customize or build communication boards that fit the user’s need.
• Tawasol AAC offers native and natural Arabic communication with options to choose between male and female voices, in addition to the option to use Text-to-Speech (TTS) capabilities. The solution allows the addition of symbols and the recording of associated sounds for existing and new symbols.

• Communication boards in Tawasol can be shared and exported for print. Messages can be shared message platforms enabled on the device.

• Tawasol offers the administrator/parent/therapist to control all aspects of styles and visual experiences including size and colors of buttons and boards, display of visual elements, and hiding and showing of buttons.

• Tawasol AAC is available through Mada Center for Assistive Technology for iOS platform devices running iOS 11 or higher.
Hands-On
THANK YOU

https://mada.org.qa/ar
http://madaportal.org/